Report on Global Youth Tobacco Survey (GYTS) 2002, Uttaranchal, India

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Executive Summary

Objectives: this report describes the knowledge, attitudes, and behaviour of young people regarding tobacco use, their exposure to environmental tobacco smoke (ETS), Pro-tobacco advertisement. In addition, it reveals the extent to which these young people receive anti-tobacco information in schools.

Method: We conducted a school- based, two-cluster survey (13-15years) in government and private schools of Uttranchal state using a standardized questionnaire based on the Global Youth Tobacco Survey (GYTS).

Results: Among the sampled schools, the school response rate was 100%. Among the eligible students over 83.6% participated in the survey. Among the respondents, the proportion of boys was 64.8%.

Ever tobacco use prevalence was 27.9% for students, 64.4% of students 1st tried any tobacco at less than ten years of age. Almost 1 in every 5 students currently used any tobacco product and almost the same used smokeless tobacco product. Over 3 in 10 students were exposed to ETS in their homes and 4 in 10 students were exposed to ETS in public places. Over 8 in every 10 boys and girls saw a tobacco (Cigarette and Gutka) advertisement on billboards and over 7-8 in every 10 in other media. One in every ten students was offered free tobacco products (like cigarette or gutka or bidi) from a tobacco company representative

Conclusion: The youth prevalence of tobacco use is alarming; especially among girls and is contrary to social norm in India. Young people are daily exposed to ETS, tobacco advertisement and can access tobacco products easily. Immediate action is required to limit youth exposure to ETS and accessibility, issue legislation to prohibit selling to minors, ban tobacco advertising and create a supportive environment to the health of young people.

Preface

The Global Youth Tobacco Survey (GYTS) is the first comprehensive and representative school-based study of youth smoking knowledge, attitudes and beliefs conducted in Uttaranchal. This study, which was conducted by School of Preventive Oncology, Patna in collaboration with Tata Institute of Fundamental research Mumbai, used an internationally standardized instrument that facilitates comparing youth behaviour regarding tobacco use at the regional as well as the international level.

Moreover, the study design, data collection and analysis were carried under the direct supervision of the office of Tobacco and Health- Centers for Disease Control and Prevention (OSH/CDC) and the Tobacco Free Initiative South East Asia Regional Office of the World Health Organization (TFI/SEARO/WHO).

Introduction

Tobacco use is one of the chief preventable causes of death in the world. The World Health Organization attributes some four million deaths year to tobacco use, a figure expected to rise to about 8.4 million by the year 2020. By that time, 70% of those deaths wills occur in developing countries. Most people begin using tobacco in their teens, and recent trends indicate rising smoking prevalence rates among children and adolescents and earlier age of initiation. If these patterns continue, tobacco will result in the deaths of 250 million children and adolescents alive today, many of them in the developing world[1]. In India tobacco use is estimated to cause 800,000 deaths annually [2].

The international society, spearhead by the Tobacco Free Initiative (TFI), World Health Organization (WHO), United Nations Children's Fund (UNICEF) and the Office on Smoking and Health (OSH), Centers for Disease Control and Prevention (CDC), has been developing

international programs and initiatives to combat this man-made plague which is devastating the lives of millions of people worldwide. However, regardless of the worldwide movement against tobacco, tobacco companies still control the tobacco market. They produce over one trillion sticks, over a billion smokers and influences ever increasing people, especially the young to start smoking every year.

Despite the harm caused by smoking only modest success has been achieved in global tobacco control. It is clear that children and young people are now more at risk than over before; and they should be the primary focus for intervention strategies.

Uttaranchal is geographically located at latitude 27.40 N Longitude: 80.00 E, covering a population of 8,479,562(4, 316, 401, Men, 4, 163, 161, Women) at a decadal growth rate19.2%. Sex ratio 964 women per 1000 men and literacy rate was 72.3% (84.0 % Men, 60.2 % women).[3]

The GYTS is a schools-based tobacco specific survey which focuses on adolescent's age 13-15 years (grades 7-10). It assesses students' attitudes, knowledge and behaviour related to tobacco use and exposure to environmental tobacco smoke (ETS), as well as youth exposure to prevention activities in school curricula[4,5]. Community programs and media messages aimed at preventing and reducing youth tobacco use. Also the GYTS provides information on where tobacco products are obtained and used, as well as the effectiveness of enforcement measures.

The GYTS will attempt to address the following issues:

- Determining the level of tobacco use.
- Estimating the age of initiation of cigarette use.
- Estimating the levels of susceptibility to become a cigarette smoker.
- Estimating the exposure to tobacco advertising.
- Identifying key intervening variable, such as attitudes and beliefs on behavioural norms with regard to tobacco use among young people

- Assessing the extent to which major prevention programs are reaching school-based populations and establish the subjective opinions of those populations regarding such interventions.

Methods

The 2002 Uttranchal-GYTS is a school-based cross sectional survey which employed a two-stage cluster sample design to produce represent able sample of students in grades eight to ten in all government and private schools having grade 8-10.

Data about schools (number of students by section/ class and range of ages) were obtained from the Department of Education Department and District education officers' office.

The first stage sample frame consisted of all schools containing any of the grades eight to ten. The data extracted from the Education department documents was forwarded to OSH, CDC to draw the study sample. For each group of schools, a tow- cluster sample design was used to produce a representative sample of students. Schools were selected with probability proportional to school enrollment size. A total of fifty schools were selected. Within each school, a computer generated list of random numbers of classes was produced to randomly select the classes, grades 8-10, to participate in the survey.

The second sampling stage consisted of systematic equal probability sampling with a random start of classes from each school that participated in the survey. All classes in the selected schools were included in the sampling frame. All students in the selected classes were eligible to participate in the survey. The total number of eligible classes accounted for 66 strata with an average of 41 students per class. 3160 students and fifty schools were eligible to participate in the survey. All schools responded. The final sample included 2641 students. The overall response rate was 83.6%.

The questionnaire consisted of a "core" Component and an "option" component. The core questions allow for regional as well as international comparisons of the survey results, while the optional questions concentrate on specific issues pertaining to individual countries.

For India the core questionnaire of the GYTS was suitably expanded to include tobacco use in the form of bidi smoking and smokeless tobacco use. All questions required answering (i.e. there was no skipping or branching pattern). The questionnaire was self administered with no identification information required (name of student, class or school), maintaining complete anonymity. Responses were recorded on optically readable answer sheets.

A weight has been associated with each questionnaire to reflect the like hood of sampling each student and to reduce bias by compensating for differing patterns of no response. The weight used for estimation is given by: W= W1*W2*F1*F2*F3*F4

W1= the inverse of the probability of selecting the school.

W2= the inverse of probability of selecting the classroom within the school.

F1= a school-level non response adjustment factor calculated by school size category (small, medium, Large).

F2 = a class adjustment factor calculated by school.

F3= a student-level non response adjustment factor calculated by class.

F4 = a post stratification adjustment factor calculated gender and grade.

Survey procedures were designed to protect the student's privacy by allowing for anonymous and voluntary participation. The self-administered questionnaire was administered in the classroom. Students recorded their responses on an answer sheet.

We used EpiInfo2000, a software package that accounted for the complex sampling design and weighing factors in the data set, to calculate standard errors and prevalence estimates. Statistical differences included in this report were determined by comparing the range of the 95% confidence intervals (95%CI) for the estimates. If the ranges for the 95%CI did not overlap then the differences were statistically significant.

The Ministry of Education (MOE), Uttranchal (India) provided assistance in terms of schools registry for sample selection, issuing necessary letter of support to the randomly selected schools. One training workshops was conducted in March 2002 and were attended by 10 survey administrators. The participants were assigned to schools and wee responsible for the delivery and collection of all survey documentation forms answer sheers and questionnaires.

Tobacco use was classified as ever use (the use of tobacco even once) and current use (use of tobacco within 30-day preceding the survey).

In India tobacco is used for smoking as well as smokeless use. In Uttaranchal tobacco is smoked in the form of cigarette, *bidi* (tobacco rolled in tendu leaf) etc

Definition of smokeless tobacco use such as betel quid, *gutka* (industrially manufactured tobacco product, containing areca nut, tobacco and other ingredients), *khaini* (tobacco leaf and lime mixture and also with arecanut), snuff, *gul* (pyrolysed tobacco with some other ingredients, used as dentifrice),*gudaku(* commercially available paste of tobacco and molasses) tobacco toothpaste and *lal dantamanjan* (red tooth powder). Most of these habits are also common in other parts of India and have been described elsewhere.[6]

Most of these products (betel quid, gutka, khaini etc.) are chewed whereas some (gul, snuff, tobacco tooth paste, red tooth powder etc.) are applied in the oral cavity. The two types of usages were distinguished as chewing and applying.

Attitude towards tobacco use was assessed by the question whether boys who smoke/chew looks more attractive; have more friends (both questions repeated for girls).

Results

A total of 2641 students completed the survey, representing an 86.6% overall response rate, and 73.3% of them were males**.**

Table: 1. Ever use of tobacco and susceptibility by sex, Uttranchal (India), GYTS-2002.

Category	Ever User Any Tobacco	Ever Smoker	Susceptible Never user	Susceptible Never smoker
Total	27.9 (±7.4)	3.8 (± 1.9)	13.9 (± 5.7	10.8(±3.0)
Male	30.7 (± 8.6)	4.6(± 3.1)	16.3(± 7.6)	12.8(± 4.7)
Female	22.7(±6.4)	2.3 (± 1.0)	9.7 (± 3.4)	7.4(± 2.0)

About one third students (27.9%) had ever used tobacco (Table1). 7 in every 10 ever users of any tobacco first tried any tobacco at less than ten years of age. Among never tobacco users (13.9%) and never smokers (10.8%) over one in ten indicated that they were likely to initiate tobacco use/ smoking during the next year. (Table1)

Table 2: Percent of students who currently use tobacco, India-Uttranchal GYTS, 2002

	Any tobacco Product	Any Smoked Product	Smokeless Products	Cigarette	Bidi	Gutkha/ Pan masala	Betel quid with tobacco
Total	18.6(± 9.1)	3.8(± 1.9)	17.6(± 9. 2)	1.7(± 1.2)	1. 9(± 1.8)	8. 3(± 5.5)	6.0(± 6.5)
Male	21.7(± 11.3)	4.6(± 3.1)	20.8(± 11.4)	2.3(± 1.9)	2.7(± 2.8)	10.5(± 7.1)	6.4(± 7.3)
Female	12.9(±6.7)	2.3(± 1.0)	11.5(± 6.7)	0.5(± 0.5)	0.3(± 0.4)	4.2(± 3.4)	5.2(± 5.9)

One in five students (18.6%) currently used and most of them (17.6%) currently smoked and one in five (19.7%) currently used any smokeless tobacco products. Cigarette (1.7%) and *Bidi* (1.9%) smoking was reported almost similar. Current *Gutka* and *Pan* chewing were reported almost similar.

Basing on the need for a tobacco product early in the morning as the indicator of addiction, smokeless tobacco user can be said to be more addicted to tobacco compared to smokers; seven in every ten (72.9%) of smokeless tobacco user and nearly 3 in every 10 current cigarette (28.6%) and bidi(32.5%) smokers reported that they need a tobacco products (cigarette/bidi/smokeless tobacco) as the first thing in the morning .

A number of questions were asked on student's exposure and attitudes to ETS. Nearly 3 in ten students had someone smoked in their homes (34.2%), in their presence. This exposure was only for the past seven days, with about 9.7% having been exposed daily. In addition, many students had been exposed in other places other than their homes, with approximately 4 in every 10 (40.6%) students having been exposed, with about 16.1% having been exposed daily. Nearly 6 in every 10 students (58.1%), said smoke from other people were harmful to them. And, so many students (64.5%) were in favor of banning smoking in public places. Current smokers were significantly more likely to be exposed to smoke from others both in their homes as well as outside their homes in past seven days than never users. (Table 3) Never users were significantly more likely to say that smoke from other people was harmful to them. (Table 3)

Table3: Environmental Tobacco Smoke, India--Uttranchal GYTS, 2002

Category	Exposed to smoke from others in their home in the past 7 days		Exposed to smoke from others outside their home in the past 7 days		Percent who think smoking should be banned from public places		Percent who definitely think smoke from others is harmful to them	
	Never Smoker	Current Smoker	Never Smoker	Current Smoker	Never Smoker	Current Smoker	Never Smoker	Current Smoker
Total	27.6(± 5.7)	58.6(± 9.9)	35.6(±5.6)	66.8(± 12.8)	66.0(± 4.5)	50.2(± 12.0)	62.6(± 4.2)	39.9(± 15.0)
Male	32.1(± 6.7)	60.0(± 10.1)	38.7(± 6.4)	66.2(± 13.9)	67.6(± 5.3)	50.4(±12.0)	59.5(± 5.9)	36.7(± 16.9)
Female	19.8(± 4.2)	53.5(± 20.4)	30.5(± 5.6)	68.8(± 24.2)	63.2(± 5.8)	49.6(± 24.4)	67.9(± 5.5)	51.6(± 21.8)

Nearly half of students reported for teaching in schools during the last year about dangers of smoking (49.2%), effects of tobacco use (49.6%) and one third of students had discussed the reasons why people of their age smoke 32.7%).(Table4). Only 1 in every ten students stated that they were taught Tobacco or Health as a lesson.

Table 4: School Curriculum, India--Uttranchal GYTS, 2002

Category	Percent taught dangers of smoking	Percent discussed reasons why people their age smoke or chew	Percent taught the effects of tobacco use in class	Percent discussed tobacco and health as part of a lesson in class
Total	49.2(± 4.8)	32.7(± 3.6)	49.6(± 5.2)	11.9(± 2.1)
Male	49.7(± 5.2)	33.3(± 4.3)	50.2(± 6.8)	11.7(± 2.9)
Female	48.5(± 6.1)	31.5(± 5.1)	48.5(± 5.7)	12.5(± 2.5)

Six in every ten students definitely thought that smoking was harmful to their health but only two in every ten students definitely thought that chewing tobacco was harmful to their health. . (Table5)

Table 5: Knowledge and Attitudes, India--Uttranchal GYTS, 2002

Category	Percent who think smoking is definitely harmful to their health	Percent who think that chewing/applying is definitely harmful to their health
Total	60.2(± 4.5)	16.9(± 7.9)
Male	57.1(± 7.0)	15.8(± 8.6)
Female	65.8(± 4.4)	20.5(± 8.8)

Three of every ten students thought that smoking makes students (boys) more attractive and smoker students (boys and girls) have more friends. Compared to never tobacco users, current smokers were 2-3 times more positive that smoking makes boys and girls friendly. (Table 6)

Table 6: Knowledge and Attitudes, India--Uttranchal GYTS, 2002

	Never user of tobacco	Current Smokeless Tobacco user
Perception on tobacco use by others		
Think boys who smoke or chew have more friends	19.7(± 2.5)	54.4(± 14.4)
Think girls who smoke or chew have more friends	16.2(± 2.1)	49.6(± 23.4)
Effects and social acceptance of tobacco use		
Chewing help relieving toothache/morning motion	21.8(±2.5)	60.2(±13.6)
Tobacco help to feel more comfortable at parties etc	26.8(±3.8)	77.8(±10.2)

Exposure to cigarette advertisements on billboards was reported very high. Nearly 9 in every 10 students had seen these in Uttranchal and above that over 6 in every ten watched lot of such advertisements. The proportions for students that had seen advertisements in other media were less than that. Nearly 7 out of every 10 students in Uttranchal said they saw cigarette advertisement in news papers and social events.

Exposure to *Gutka/pan masala* advertisements on billboards was also reported very high. Over eight in every 10 students had seen these in Uttranchal. The proportions for students that had seen advertisements in other media were less than that. Nearly 7 out of every 10 students in Uttranchal said they saw *Gutka/pan masala* advertisement in news papers and in social events.

Current smokeless tobacco user than never users were significantly more likely to report for watching *Gutka/pan masala* advertisement in print media and news papers. (Table 7)

Table 7: Media and Advertising – Guthka / Pan masala India--Uttranchal GYTS, 2002

Category	Seen alot of advertisement and media messages about guthka / pan masala on:			
	Newspapers/Magazines		Social gatherings	
	Never Tobacco User	Current Chewer/ Applier	Never Tobacco User	Current Chewer/ Applier
Total	30.1(± 4.2)	52.2(± 10.5)	43.5(± 10.5)	72.8(± 11.3)
Male	53.6(± 10.9)	53.6(± 10.9)	45.5(± 6.0)	75.9(± 11.8)
Female	47.7(± 11.7)	47.7(± 11.7)	40.2(± 3.6)	63.2(± 11.9)

Nearly 7 in every 10 students reported to watch bidi advertisements on billboards and in social events in Uttranchal. One in every 10 students reported that they had been offered free samples of cigarette and *gutka* and *Bidi.*

Discussion

This study provides first representative database on tobacco prevalence among school going children in the age group of 13-15 years in Uttranchal state.

The present study finds that a significant proportion of the youth in the state use tobacco products. Nearly 3 in every 10 of the youth that participated in the survey admitted to have ever used tobacco and nearly 2 in every 5 of the students were currently using any tobacco product, 17.6% used smokeless tobacco and 3.8% revealed to smoke any tobacco product. Surprisingly for all categories of tobacco use, there is no significant difference among boys and girls. Tobacco industry is destroying the social norms in India.

Uttranchal has been separated very recently from UP which is one of the states where a lot of tobacco is cultivated [7]. High prevalence of tobacco among the youth in the Uttranchal state may therefore be attributed to easier access of raw tobacco to the young people in the entire state of undivided UP and high rates of tobacco use in the community by adults(in undivided UP) [8]. Adults tobacco use before adolescents create an environment in which adolescent perceive tobacco use/smoking as social norm. This becomes more alarming when a section of adolescent population remains ignorant about harmful effects of tobacco use and they have positive attitude for tobacco use by others. This holds true for uttranchal; 4 out of 10 students are ignorant about harmful effects of tobacco use; 3 in every students % think boys and girls who smoke or chew tobacco have more friends and boys and girls who smoke or chew tobacco look more attractive

The survey results also show that nearly three fourth of the ever tobacco users reported they started tobacco use/smoking at an early age of less than 10.

On the possibility for the non-smokers/non users to initiate smoking by the year 2003, almost one in every 10 non users said they would.

The young people consider smoking as a normal social behaviour and tend to correlated smoking with independence and an appearance of confidence, an image that is intensively projected in tobacco advertising and promotional activities. Roughly more than seven in every 10 students in Uttranchal are exposed to tobacco products advertisements in all kinds of media. There is no regulatory effort to check such promotions of tobacco products by Uttranchal government.

Some earlier study in India have shown that youth targeted sports sponsor by tobacco companies and advertising through TV depicting a high life style of smoking influence the children's mind and helps initiate smoking in India [10,11].

Most of the homes and places frequented by the youth interviewed do not have anti-smoking rules within their premises; almost 2 in every 5 and 1 in every 2 students said they were around others who smoke in their homes and other places (other than their homes) respectively, in a week prior to the interviews. The apex court in India has banned smoking in public place [9]. However the efforts to protect non-smokers from the health effects of passive smoking are not being supported by the Uttranchal government.

Youth freely buy cigarettes and gutka from any tobacco retail outlets. The situation has been aggravated by the influx of vendors distributing free tobacco products samples. One in every 10 students had been offered free cigarette,bidi and gutka samples. Since cigarettes are sold loose, there by making access by everyone easy and relatively "cheap" vendors find this as an advantage to sell more tobacco products and operating at any point. It is hoped that when the comprehensive tobacco control bill will be passed by parliament and subsequently by Uttranchal Legislative assembly, the malpractice of selling harmful products like tobacco to young people would be arrested or reduced and tobacco advertising would be regulated.

School environment in UP is making considerable contribution on the providing pupils with messages on the harmful effects of tobacco as over 6of every 10 students said that they were taught tobacco or health as part of lesson in classroom. Nearly half of the students said they had discussed the effects/dangers of smoking tobacco in a classroom. The survey results also show that family members (parents/guardians) assist greatly in educating their children on the dangers of smoking/chewing tobacco. About 7 in every 10 students (66.5%) said that family members had discussed the harmful effects of smoking or chewing tobacco. But, some parents/guardians set a very bad example for their children; nearly 4in every 10 students reported that their parents smoke/chew tobacco.

There are several recent reports, predicting an increase in oral cancer incidence in India. This prediction is based upon observation of an increasing prevalence of oral submucous fibrosis, especially in younger individuals, caused by industrially manufactured smokeless tobacco products [12-15]. Majority of tobacco chewers in the present study reported gutka chewing confirming the countrywide trend of increasing gutka use. Gutka is one of the most highly advertised products in almost all media and it is noteworthy that tobacco users reported watching more tobacco advertisement compared to never users.

In Western settings, intervention programs have been successful, at least in delaying initiation of smoking [16-19]. Comprehensive school tobacco control policy comprising a combination of tobacco-free school policies and an evidence-based curriculum linked to community wide programs involving families, peers, and organizations with counter marketing campaigns and community-based activities have shown a success in reducing smoking in schools in USA[20]. In India, Goa is one of the good examples in the country where comprehensive tobacco control policy seems to work. Tobacco use prevalence in Goa has been reported very low [5] as compared to Uttranchal

(table1 &2) which has no state level policy. There is greater potential for school-based awareness programs in Uttranchal as well as whole of India followed by cessation initiative.

Recommendations

Based on the findings of the study, the following recommendations are made;

(1)Initiation of Intensive education and awareness campaigns as majority of them are ignorant of the risks associated with the use of tobacco products/ ETS. (2) Schools in Uttranchal need to have curricular practices and tobacco policy prohibiting tobacco use by students, school personnel and any visitor in school premises. And also since a significant proportion of the youth start smoking at the age of 10 (or less), there is need for tobacco control education to be introduced at an early age, possibly at school inception and those parents and guardians must be involved in the campaign.(3) Lobbying for anti tobacco legislation, which will regulate marketing and distribution of tobacco products and ban tobacco advertisements and tobacco sponsorship to sports. It would be useful to monitor how the tobacco industry adapts its strategies to induce young people into smoking so that appropriate Counteractions should be developed.

(4) Framework public policies and enact and enforce tobacco control legislation that would prevent the youth from buying tobacco products and tobacco trade.

(5) Training of media personnel on how to effectively inform and educate the public, more especially the youth, on issues pertaining to tobacco use.

(6) In order to obtain a more comprehensive picture of tobacco prevalence among the youth in the state, the survey needs to be repeatedly done (possibly once in every three years) and should also be expanded to the youth who are not school gores.

In sum, the study revealed rampant and ravaging use of tobacco among the youth in the state. It is therefore, imperative that all possible expedient actions be taken to redress the situation that can be addressed by a good tobacco control legislation and policy.

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Acronyms and Abbreviations

CDC Centre for Disease Control

ETS Environmental Tobacco Smoke

FCTC Framework Convention on Tobacco Control

GYTS Global Youth Tobacco Survey

NGO Non Governmental Organization

TFI Tobacco Free Initiative

WHO World Health Organization

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